



UNITED STATES PATENT AND TRADEMARK OFFICE

cel

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/599,968	06/21/2000	Roberto Aiello	FANT-00-013	7156
44279	7590	06/21/2005	EXAMINER	
PULSE-LINK, INC. 1969 KELLOGG AVENUE CARLSBAD, CA 92008			PHU, PHUONG M	
			ART UNIT	PAPER NUMBER
			2631	

DATE MAILED: 06/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/599,968

Applicant(s)

AIELLO ET AL.

Examiner

Phuong Phu

Art Unit

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

This Office Action is responsive to the applicant's response filed on 5/25/05.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 15, 16, 18 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Aiello et al (2002/0018458), previously cited.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

-Regarding to claims 15, 16, 18 and 19, see figures 1 and 2, and sections [0052-0062], Aiello et al discloses a system (see figure 1) comprising:

a first slave transceiver (14a) having a receiver (figure 2) to receive UWB spread spectrum signals (see sections [0055] and [0060]);

a second slave transceiver (14b) to communicate with said first slave transceiver;

Art Unit: 2631

a master receiver (12) in communication with said first slave transceiver and said second slave transceiver, said master transceiver managing data transmissions and synchronization between said first slave transceiver and said second slave transceiver (see section [0062]), wherein said master transceiver comprises a master receiver (figure 2 and sections [0055] and [0060]) including a radio frequency (RF) front end (24), a pulse detector (32) and a data recovery unit (56) to receive spread spectrum RF signals having different modulation methods (PAM, ON-OFF keying) (see section [0070]).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 15-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fullerton et al (5,677,927), previously cited, in view of Petch et al (6,243,372), previously-cited.

-Regarding to claims 15-19, Fullerton et al discloses a cellular telephone system using ultra-wideband spectrum signals for communications (see col. 12, line 65 to col. 13, line 2) wherein the cellular telephone system inherently comprises at least a base station (equivalent with the limitation “master transceiver”, and a first mobile unit and a second mobile unit (equivalent with “first slave transceiver” and “second slave transceiver”, respectively) in a particular cell for transmitting and receiving the ultra-wideband spectrum signals, and within the cell, the two mobile units communicate to each other via the base station wherein the base station can be configured to comprise a master receiver (see figure 14) including rf front end (1402); a

Art Unit: 2631

pulse detector (1408) and data recovery unit (1424, 1410, 1414, 1418, 1428) for receiving spread spectrum RF signals having different modulation methods and/or having different pulse repetition frequencies (see also figures 10, 18, 19, 24 and col. 14, lines 44-67 and col. 15, lines 1-24).

Further regarding to claim 16, Fullerton et al does not disclose said received spread spectrum rf modulated signals modulated by on-off keying.

However, Fullerton et al teaches that said received spread spectrum rf modulated signals when still at the transmit site, they can be configured to be modulated signals (1204), modulated by PM, AM, PM, FSK, PSK, pulse FM, or the like and/or digital encoded signals, encoded, e.g., by Manchester encoding, being as electrical representatives of plural information (1020) from an information source (1018) to be transmitted (see figure 10 and col. 14, lines 44-57).

While it is well-recognized in the art that on-off keying's (e.g., ASK, PSK, FSK, or unipolar encoding) are ones or the like of PM, AM, PM, FSK, PSK, pulse FM or Manchester encoding for modulating an information source to form its electrical representative to be transmitted, and the examiner takes Official Notice, therefore, it would have been obvious for one skilled in the art, within his skills and upon design preference or system requirement, to implement Fullerton et al in such a way that said spread spectrum rf modulated signals would be configured as signals modulated by on-off keying, as also taught by Fullerton et al, so that capability of channelization of system would be enhanced.

Further regarding to claims 15-19, Fullerton et al does not disclose whether said base station manage synchronization between said first mobile unit and said second mobile unit.

Petch et al discloses a synchronization between first and second mobile stations (14) managed by a base station (12) in a cellular wireless system (see figure 1), by synchronizing master clock of the first and second mobile stations with the master clock of the base station in such a way that said base station (see figure 2) generates a master clock signal (42) (see figure 2) for controlling the timing of control signals "polling signal" (175) (see figure 5) which are sent from the base station to the mobile stations, the control signals which, in turn, are used to control the master clock (174) of the respective mobile stations wherein the mobile station master clocks generate respective mobile station clock signals (176) having the same frequency as the base station (see col. 7, line 61 to col. 8, line 10, col. 10, lines 43-55 and col. 11, lines 27-67).

Therefore for an application, it would have been obvious for one skilled in the art, at the time of the invention was made, within his skills and without affecting the overall system performance, to implement the base station in Fullerton et al system to manage synchronizations between the first mobile unit and the second mobile unit, as taught by Petch et al, in such a way that said base station generates a master clock signal for controlling the timing of control signals "polling signal" which are sent from the base station to the mobile units, the control signals which, in turn, are used to initiate the master clock of the respective mobile stations to generate respective mobile station clock signals to be synchronize with the base station's master clock signal and have the same frequency as the base station's master clock signal, and such the synchronization of the clock signals of the base station and the mobile units can be achieved by initializing the clocks of the mobiles units based on the received control signals as taught by Petch et al prior to UWB technology being deployed wherein the control signals "polling signal" would be sent from the base station to by received and recovered by the respective mobile units

Art Unit: 2631

by an a conventional carrier wave technology, as taught by Petch et al, prior to UWB technology being deployed, so that a network-wide synchronization among the base station and first and second mobile units would be established and maintained for optimal operation of the cellular wireless system, e.g., to minimize interference problems otherwise caused by non-synchronized base and/or mobile station transmissions in the same cell (see Petch et al, col. 1, lines 40-45).

Response to Arguments

5. Applicant's arguments filed on 5/25/05 have been fully considered but they are not persuasive.

The applicant mainly argues that (i) Aiello et al (2002/0018458) is not a prior art because its filing date 09/07/01 is latter than the effective filing date 11/3/99 of the current application; and (ii) it would not have been obvious to implement Fullerton et al (5,677,927) received spread spectrum rf modulated signals to be ones being modulated by on-off keying, and (iii) it would not have been obvious to implement Fullerton et al in view of Petch et al (6,243,372) for leading to the claimed system because Fullerton et al employs ultra-wideband technology and Petch et al employs a conventional carrier way technology different from Fullerton et al's.

-Regarding to part (i), the examiner respectively disagrees. Aiello et al (2002/0018458) is considered as a prior art because its effective date is 09/10/99, which is based on being claimed as continuation of 09/393,126 filed on 9/10/99.

-Regarding to part (ii), the examiner also disagrees. Fullerton et al teaches that the received spread spectrum rf modulated signals when still at the transmit site, they can be configured to be modulated signals (1204), modulated by digital encoded signals, encoded, e.g., by Manchester encoding or the like, being as electrical representatives of plural information

Art Unit: 2631

(1020) from an information source (1018) to be transmitted (see figure 10, and col. 14, lines 44-57). While ON-OFF keying “unipolar encoding” is one of digital encodings and also the like of Manchester encoding, therefore, it would not have been obvious to implement Fullerton et al received spread spectrum rf modulated signals to be ones being modulated by on-off keying.

The examiner now additionally cites Haykin, “An Introduction to Analog and Digital Communications”, published by John Wiley & Son, Inc., 1989, pages 197-198, teaching that ON-OFF keying “unipolar encoding” (see figure 5.12 (a)) is one of digital encodings and also the like of Manchester encoding (see figure 5.12 (e)) as being as an electrical representative of plural information for transmission.

-Regarding to part (iii), the examiner also disagrees. As being explained above in this Office Action, it would have been obvious for one skilled in the art, at the time of the invention was made, within his skills and without affecting the overall system performance, to implement the base station in Fullerton et al system to manage synchronizations between the first mobile unit and the second mobile unit, as taught by Petch et al, in such a way that said base station generates a master clock signal for controlling the timing of control signals “polling signal” which are sent from the base station to the mobile units, the control signals which, in turn, are used to initiate the master clock of the respective mobile stations to generate respective mobile station clock signals to be synchronize with the base station’s master clock signal and have the same frequency as the base station’s master clock signal, and such the synchronization of the clock signals of the base station and the mobile units can be achieved by initializing the clocks of the mobiles units based on the received control signals as taught by Petch et al prior to UWB technology being deployed wherein the control signals “polling signal” would be sent from the

Art Unit: 2631

base station to be received and recovered by the respective mobile units by an a conventional carrier wave technology, as taught by Petch et al , prior to UWB technology being deployed, so that a network-wide synchronization among the base station and first and second mobile units would be established and maintained for optimal operation of the cellular wireless system, e.g., to minimize interference problems otherwise caused by non-synchronized base and/or mobile station transmissions in the same cell (see Petch et al, col. 1, lines 40-45).

In order to clarify that without affecting the overall system performance and within skills of one skilled in the art, the synchronization of the clock signals of the base station and the mobile units can be achieved by initializing the clocks of the mobiles units based on the base station's master clock signal prior to UWB technology being deployed into operation wherein a conventional carrier wave technology, different than UWB technology can be utilized to achieve such the synchronization, the examiner now additionally cited Fullerton et al (6,133,876) (now referred as Fullerton et al II). In Fullerton et al II, without affecting the overall system performance, the synchronization of the clock signals of a station (O) and two units (1304) and (1308) can be achieved by initializing the clocks of the two units based on station's master clock signal prior to UWB technology being deployed into operation wherein a conventional carrier wave technology, different than UWB technology can be utilized to achieve the synchronization (see figure 13, col. 13, lines 10-21).

Based on the above rationale, it is believed that the limitations of claims are still met and therefore, the rejections are still maintained.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong Phu whose telephone number is 571-272-3009. The examiner can normally be reached on M-F (6:30-2:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 571-272-3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2631

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Phuong Phu

Phuong Phu
06/15/05

**PHUONG PHU
PRIMARY EXAMINER**

Phuong Phu
Primary Examiner
Art Unit 2631